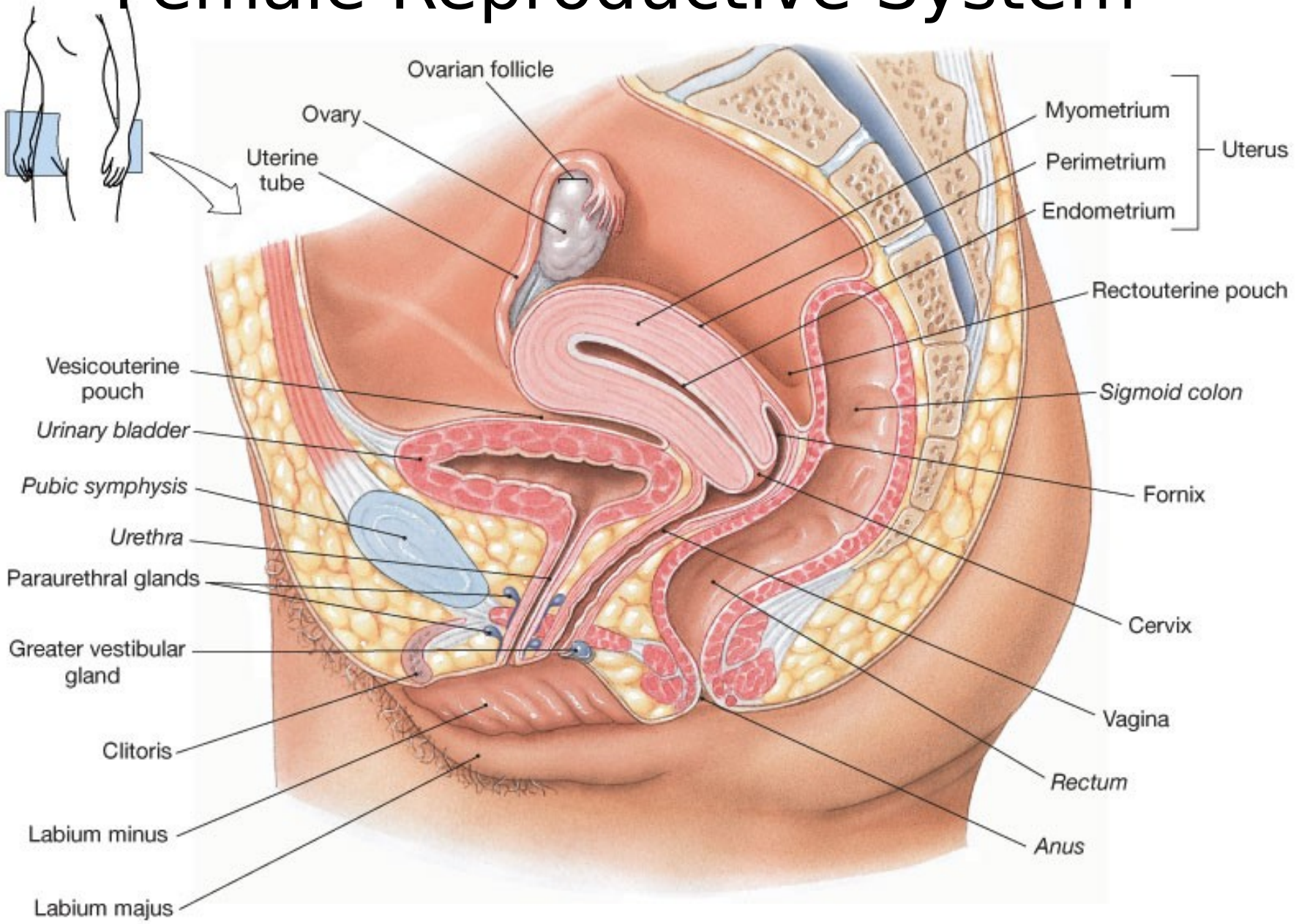
The Female Reproductive System

- Ovaries
- Uterine tubes
- Uterus
- Vaginal canal and vagina
- External genitalia

All 3 enclosed within broad ligament.

Female Reproductive System



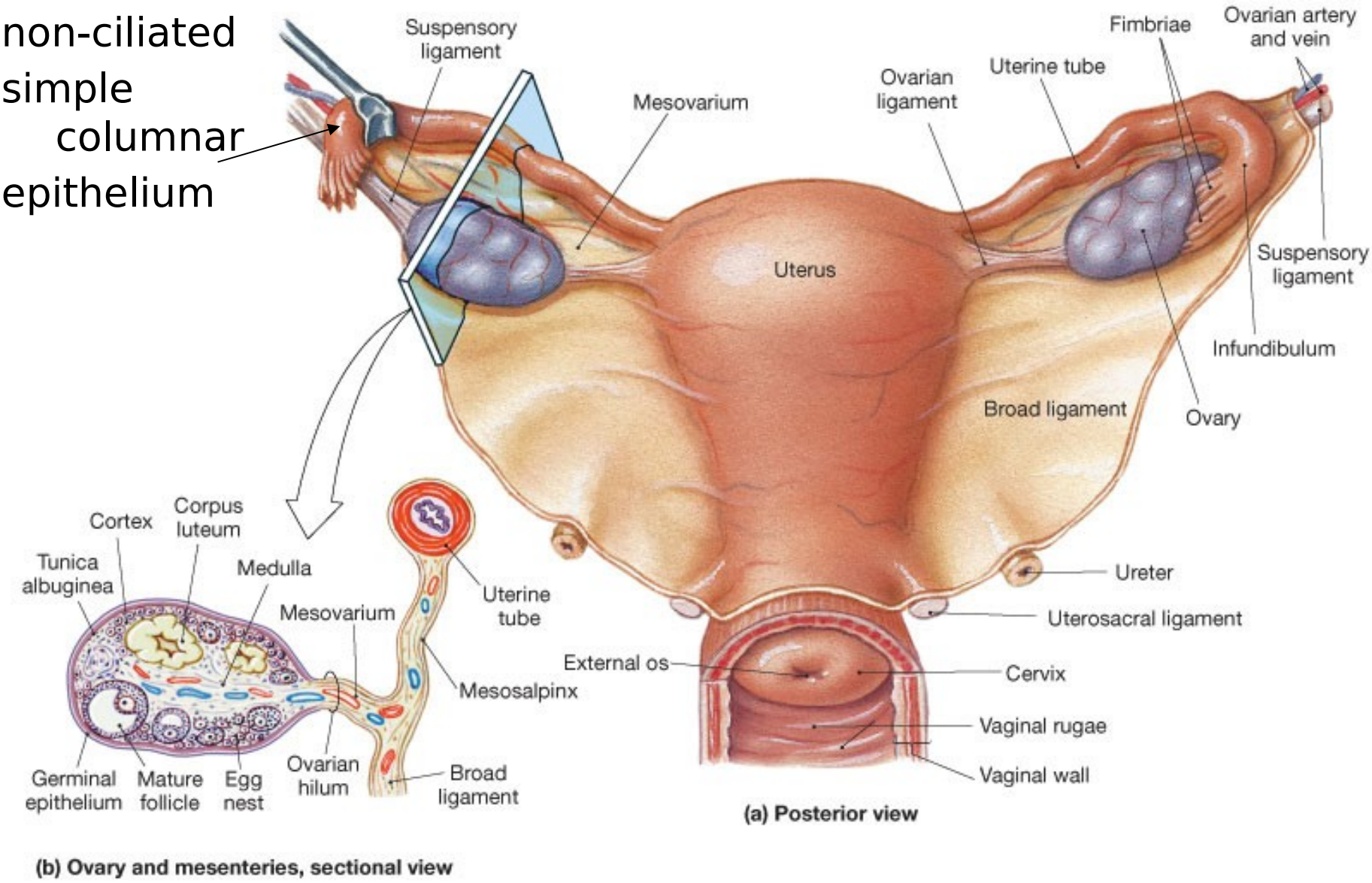
The Ovaries

Ovaries -> eggs, estrogen and progesterone.

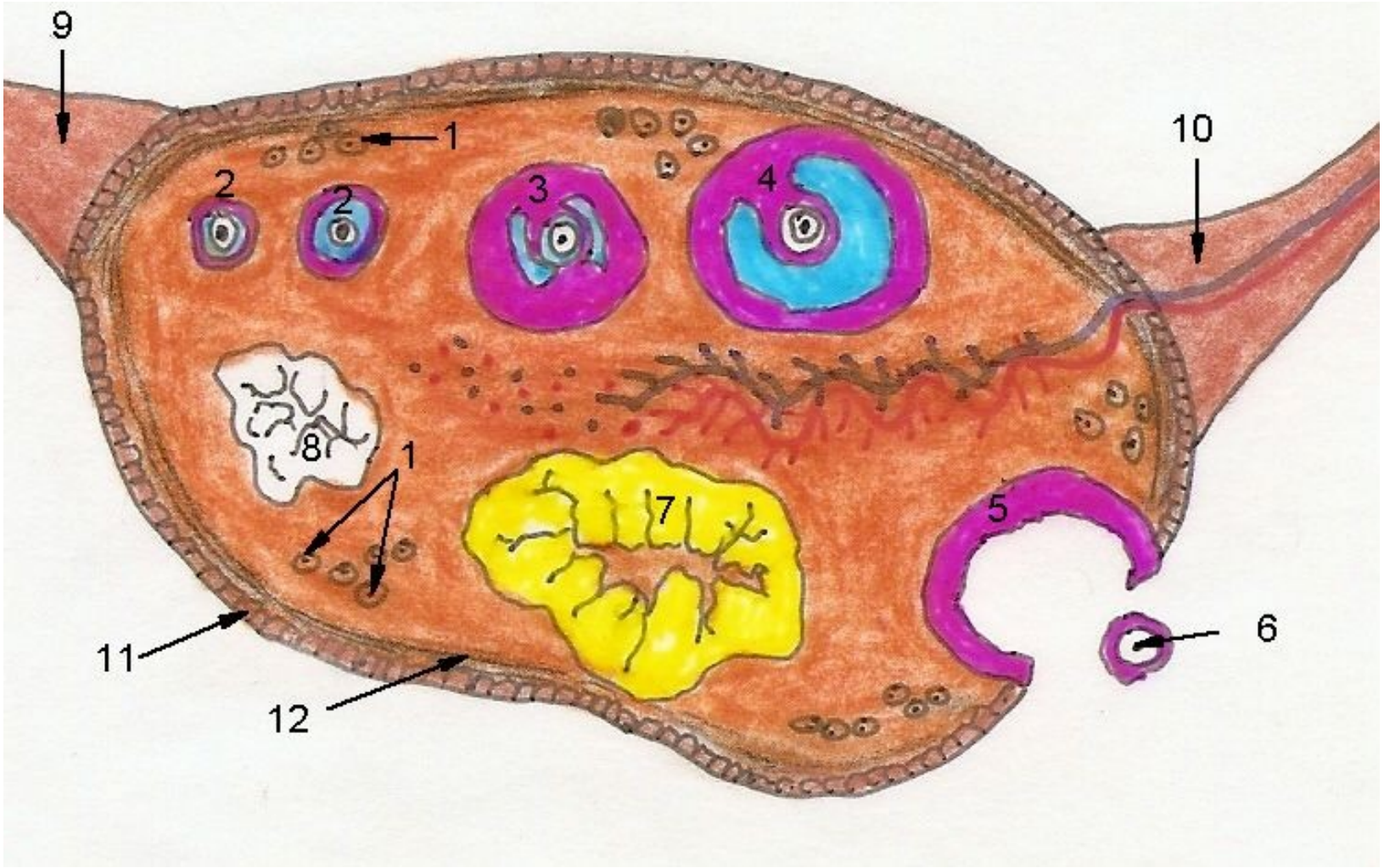
- Held in position by ovarian ligament and suspensory ligaments.
- Ovarian artery and vein enter at ovarian hilus.
- Has tunica albuginea.
- Ovarian cycle and follicular development.

(dictates uterine cycle)

ciliated and non-ciliated simple columnar epithelium



Frontal section of the Ovary



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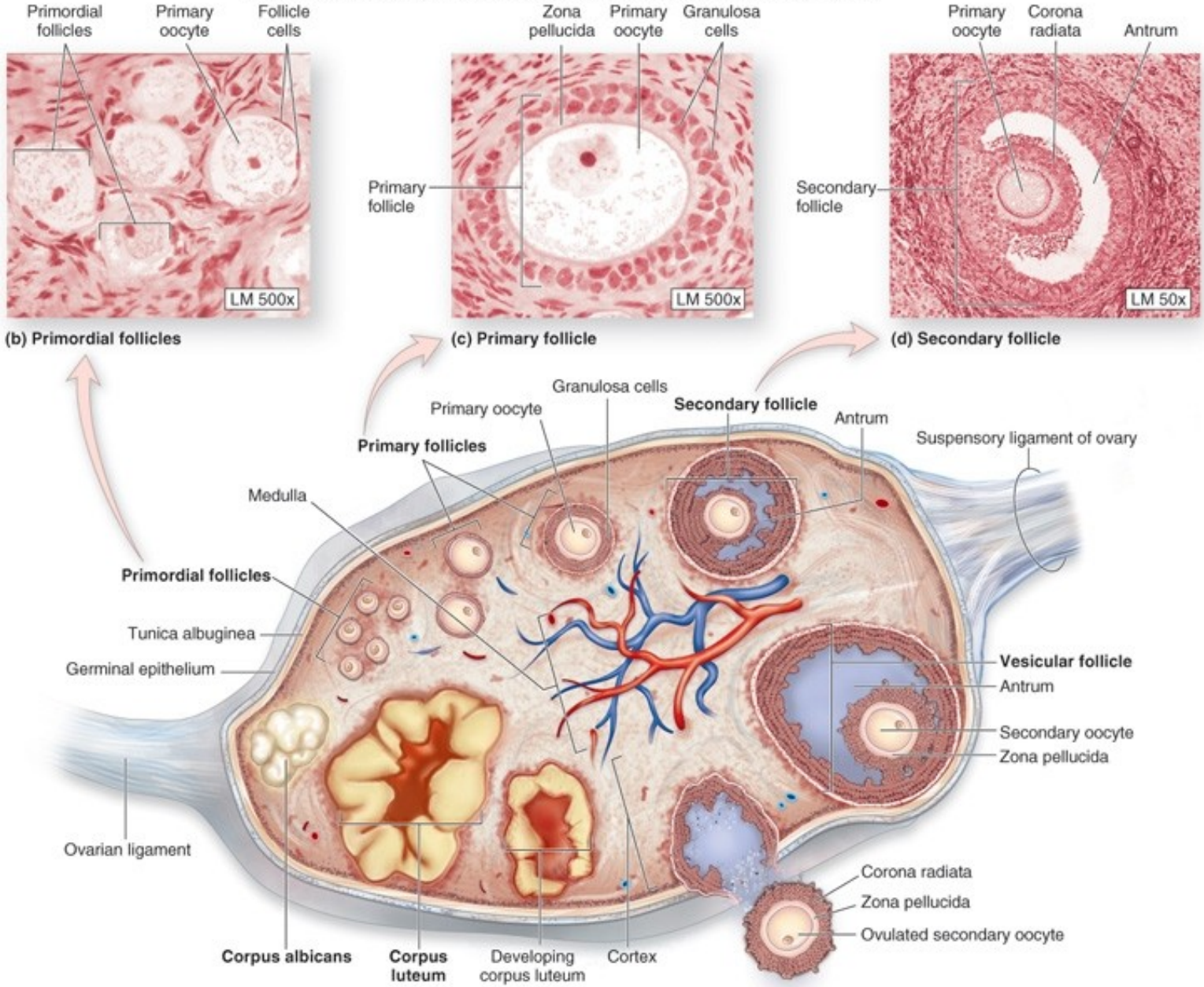
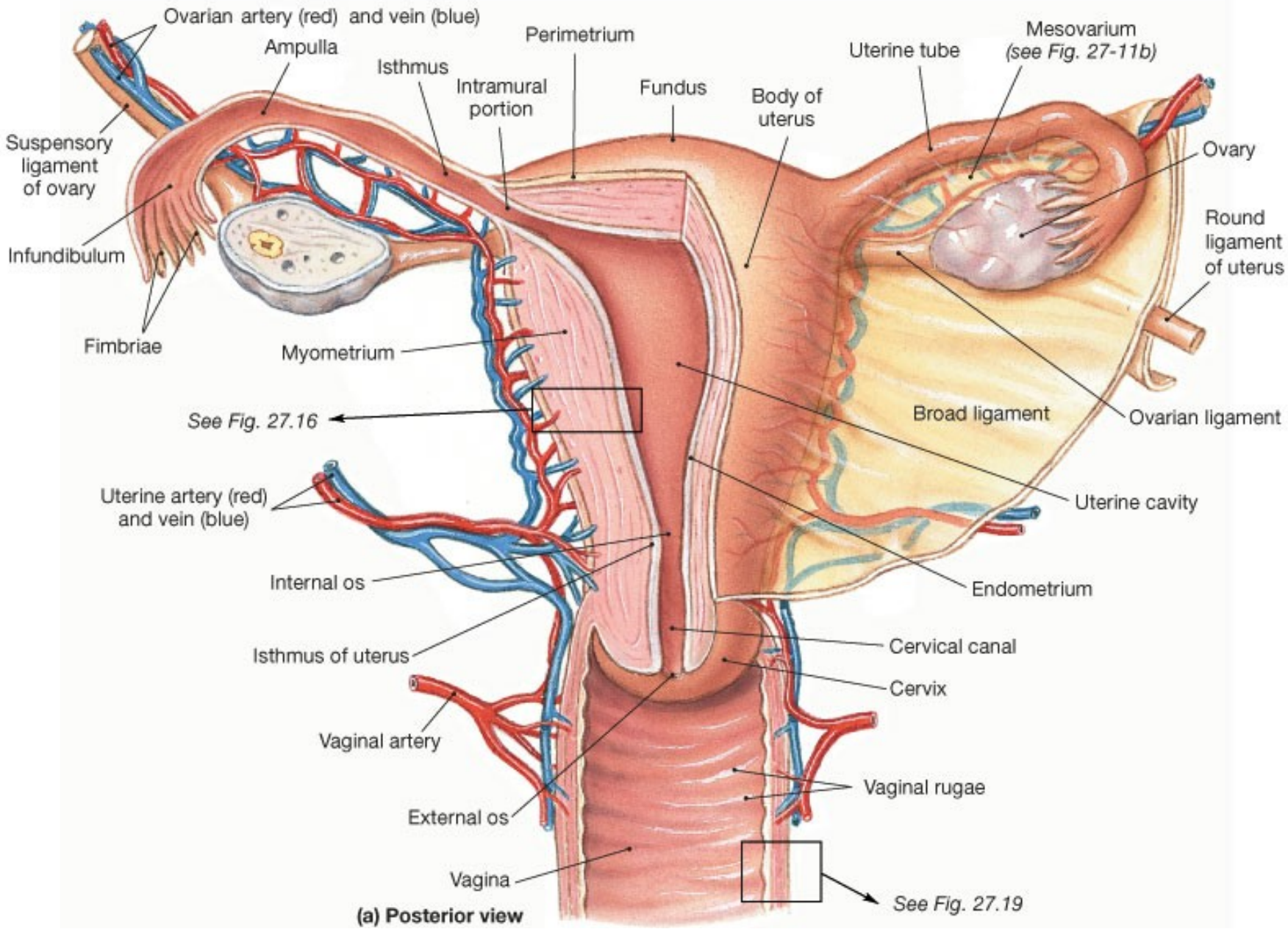


The Uterine Tubes

- Infundibulum with fimbriae
- Ampulla
- Isthmus

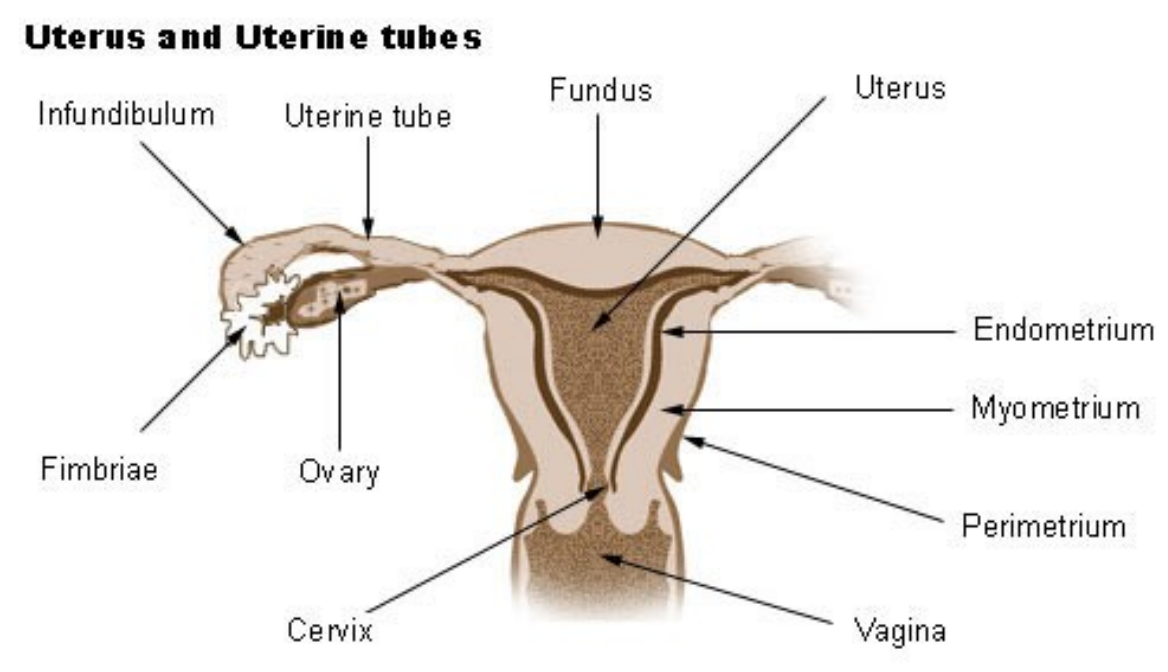
- Opens into uterine cavity

- Lined with ciliated and non-ciliated simple columnar epithelium - aids in transport


Ovarian artery (red) and vein (blue)
Ampulla
Isthmus
Intramural portion
Perimetrium
Fundus
Body of uterus
Uterine tube
Mesovarium (see Fig. 27-11b)
Suspensory ligament of ovary
Infundibulum
Fimbriae
Ovary
Round ligament of uterus
Myometrium
See Fig. 27.16
Broad ligament
Ovarian ligament
Uterine artery (red) and vein (blue)
Uterine cavity
Internal os
Endometrium
Isthmus of uterus
Cervical canal
Cervix
Vaginal artery
Vaginal rugae
External os
Vagina
See Fig. 27.19
(a) Posterior view

Gross Divisions of the Uterus

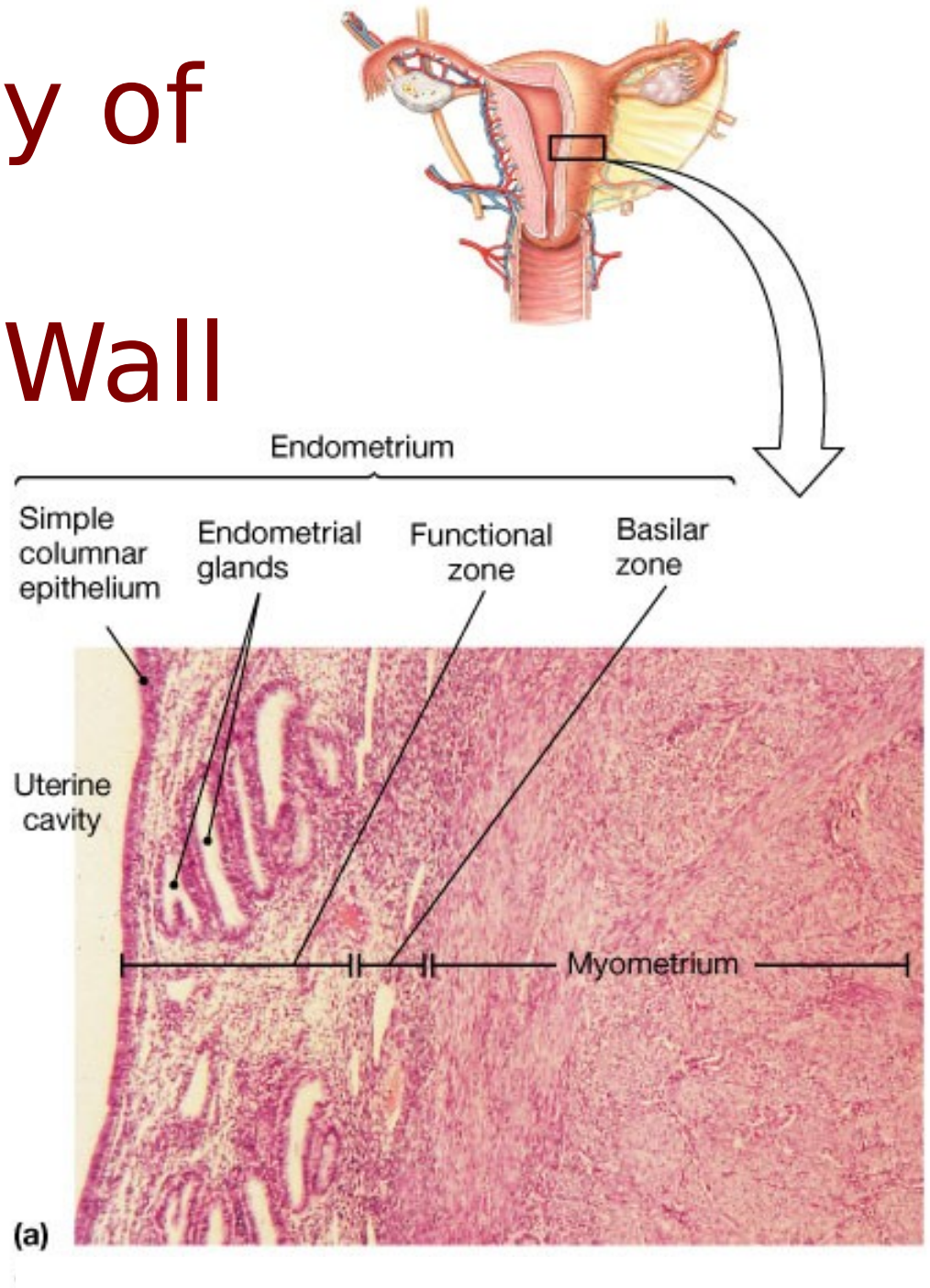
- Fundus
- Body (largest portion)
  - Uterine cavity
- Cervix
  - Internal os
  - Cervical can
  - External os



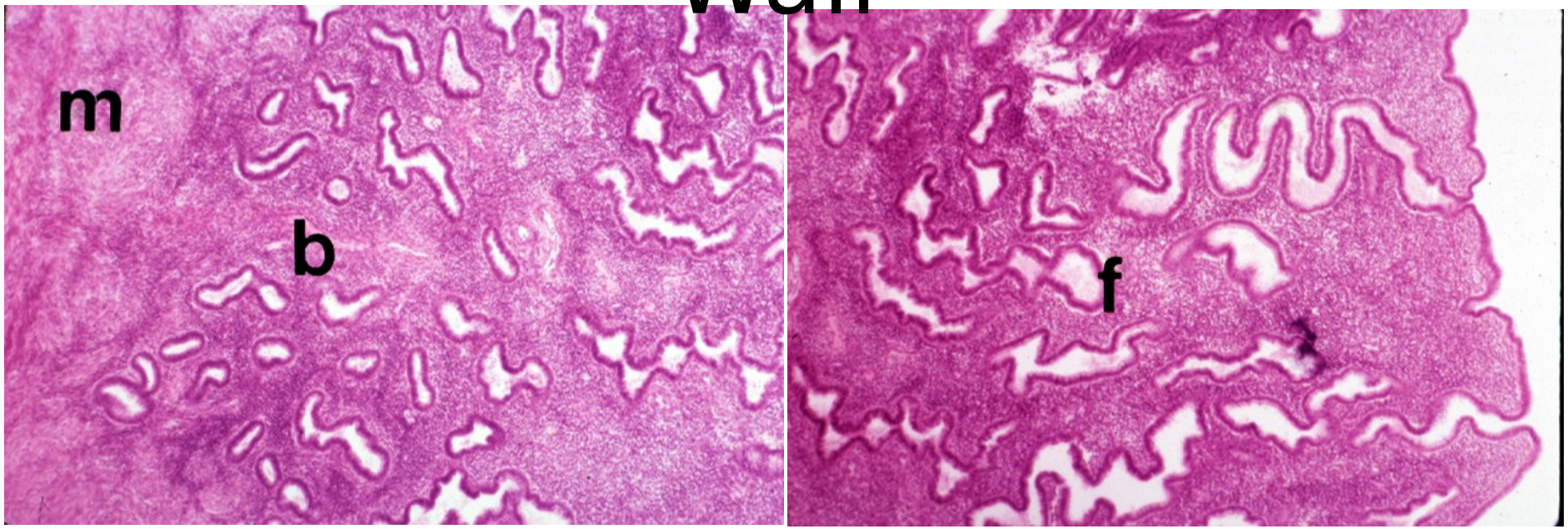
Uterine Wall (Layers)

- **Endometrium** - innermost layer
  - Contains endometrial (uterine) glands.
    - Functional layer, top 1/3 (sheds).
    - Basal Layer, bottom 2/3 (remains).
- **Myometrium** – muscular (thickest ~90%).
- **Perimetrium** – outermost (superficial).

Histology of the Uterine Wall

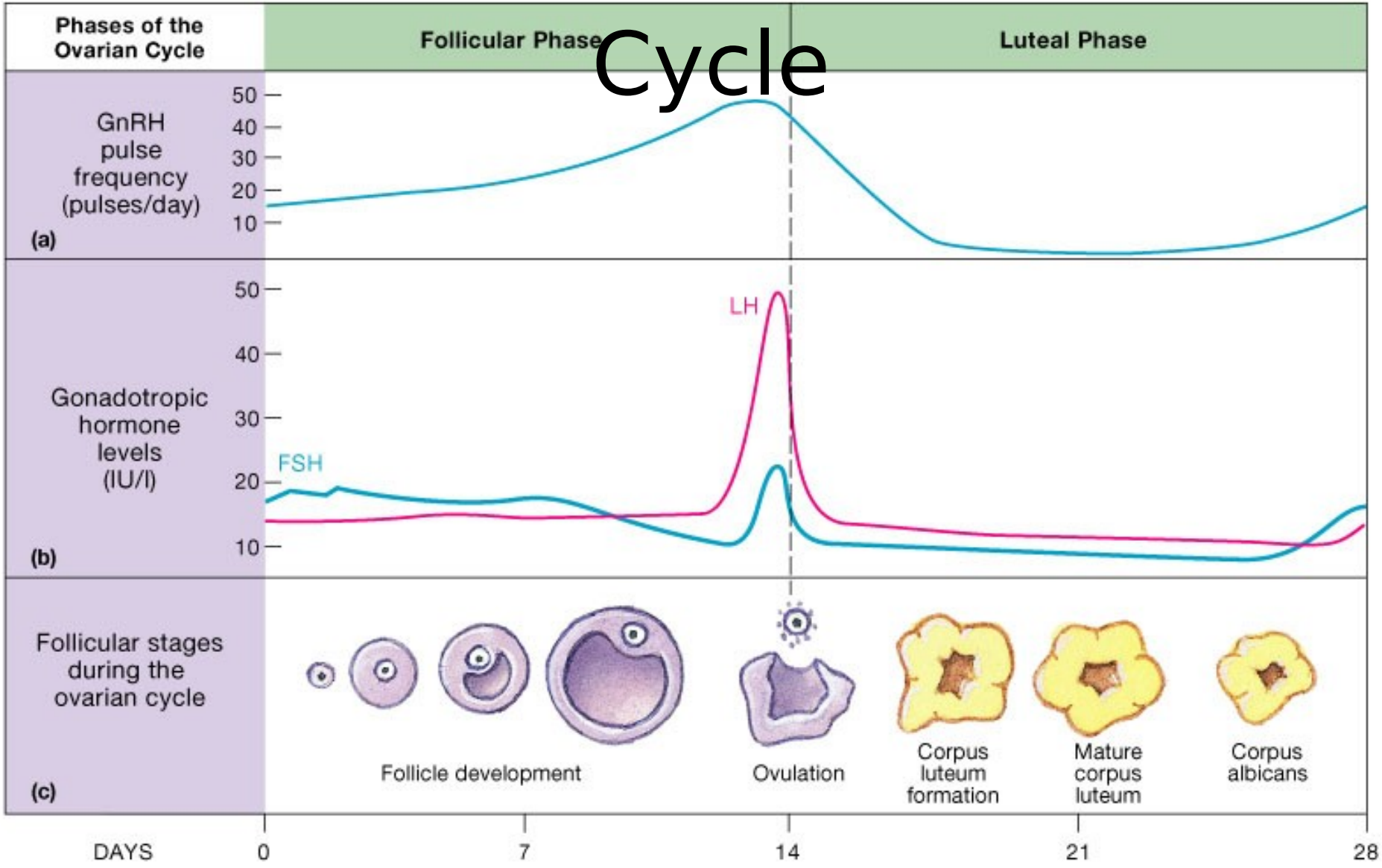


Uterine Wall

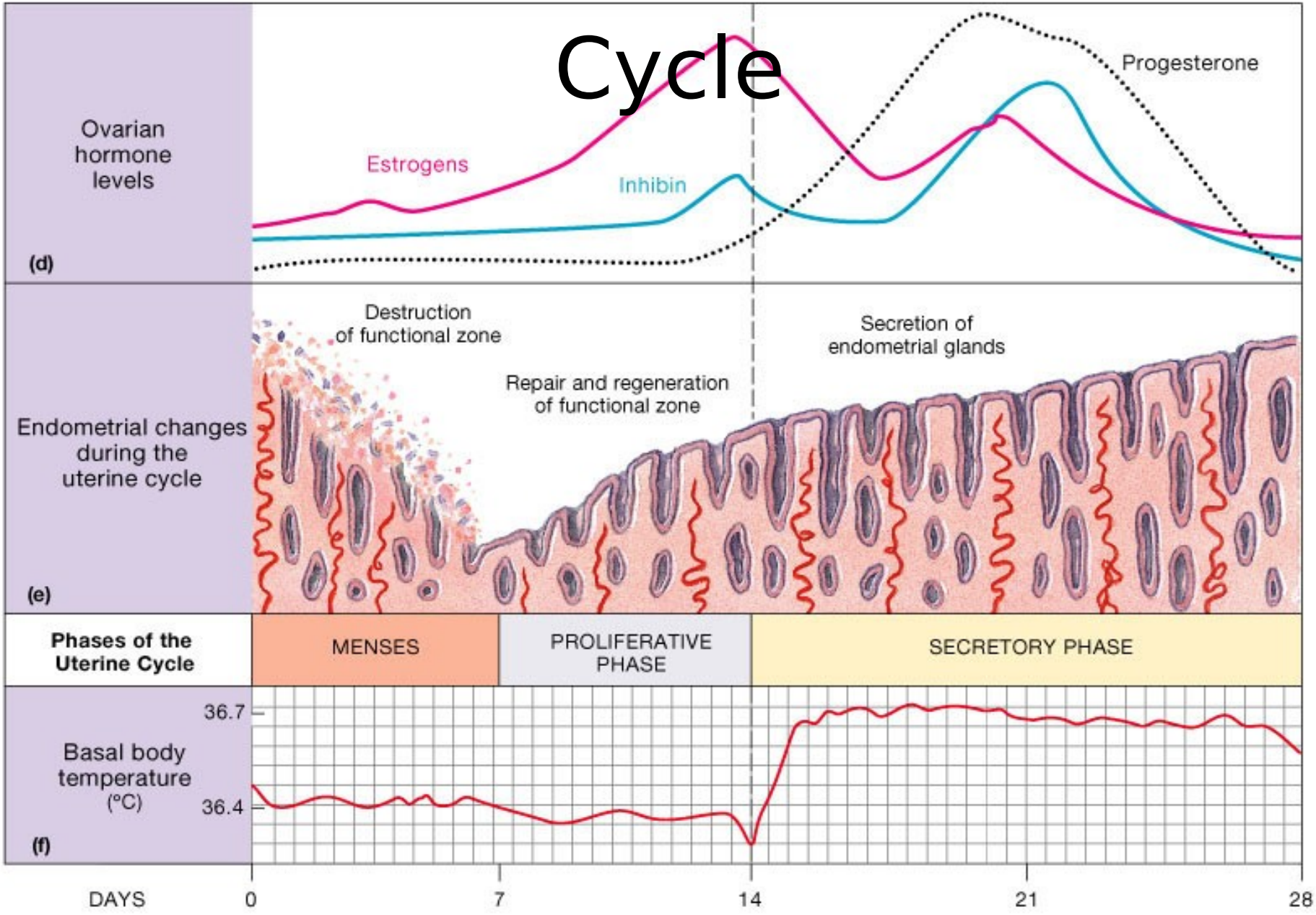


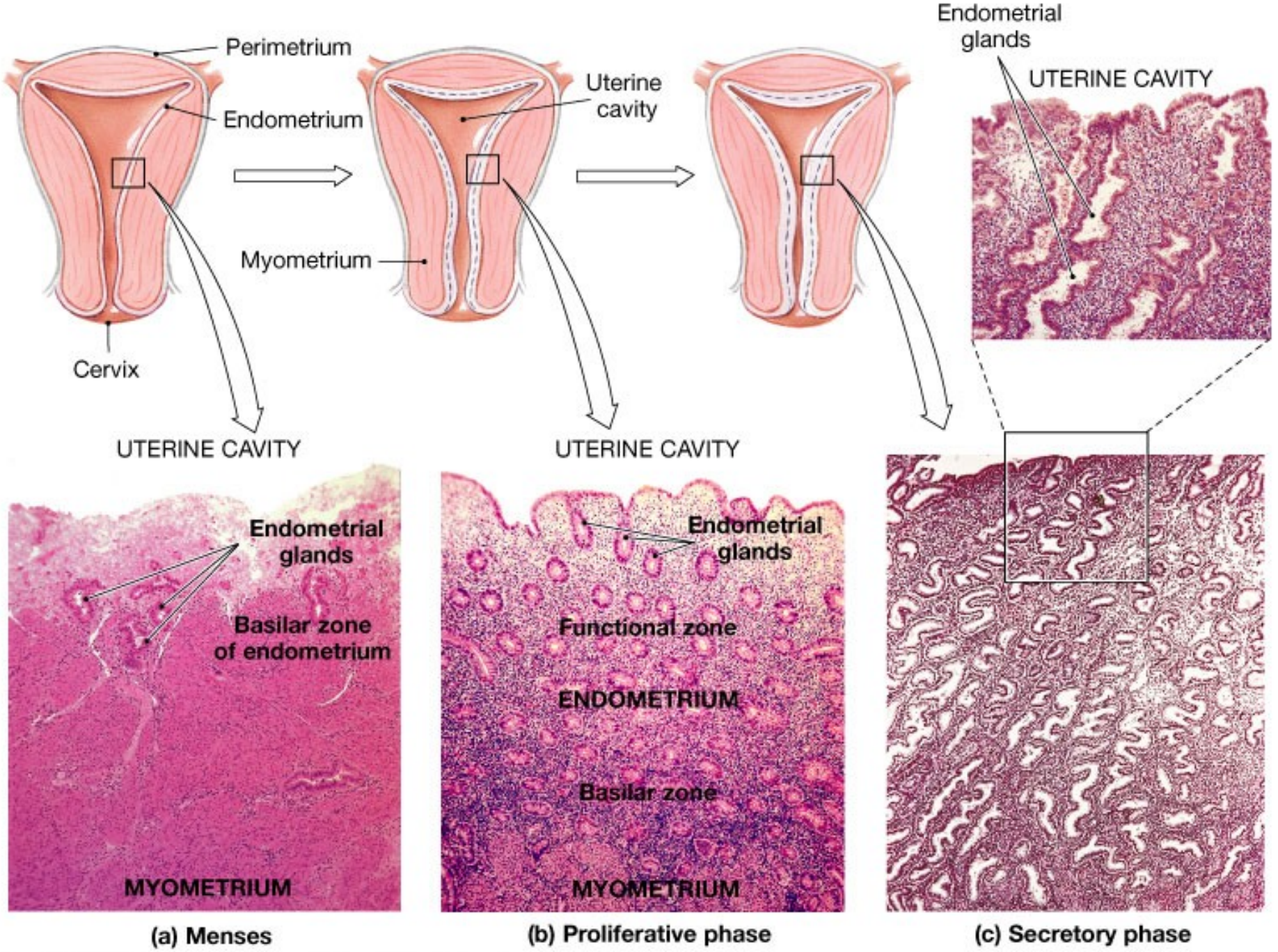
Histology

Ovarian Cycle

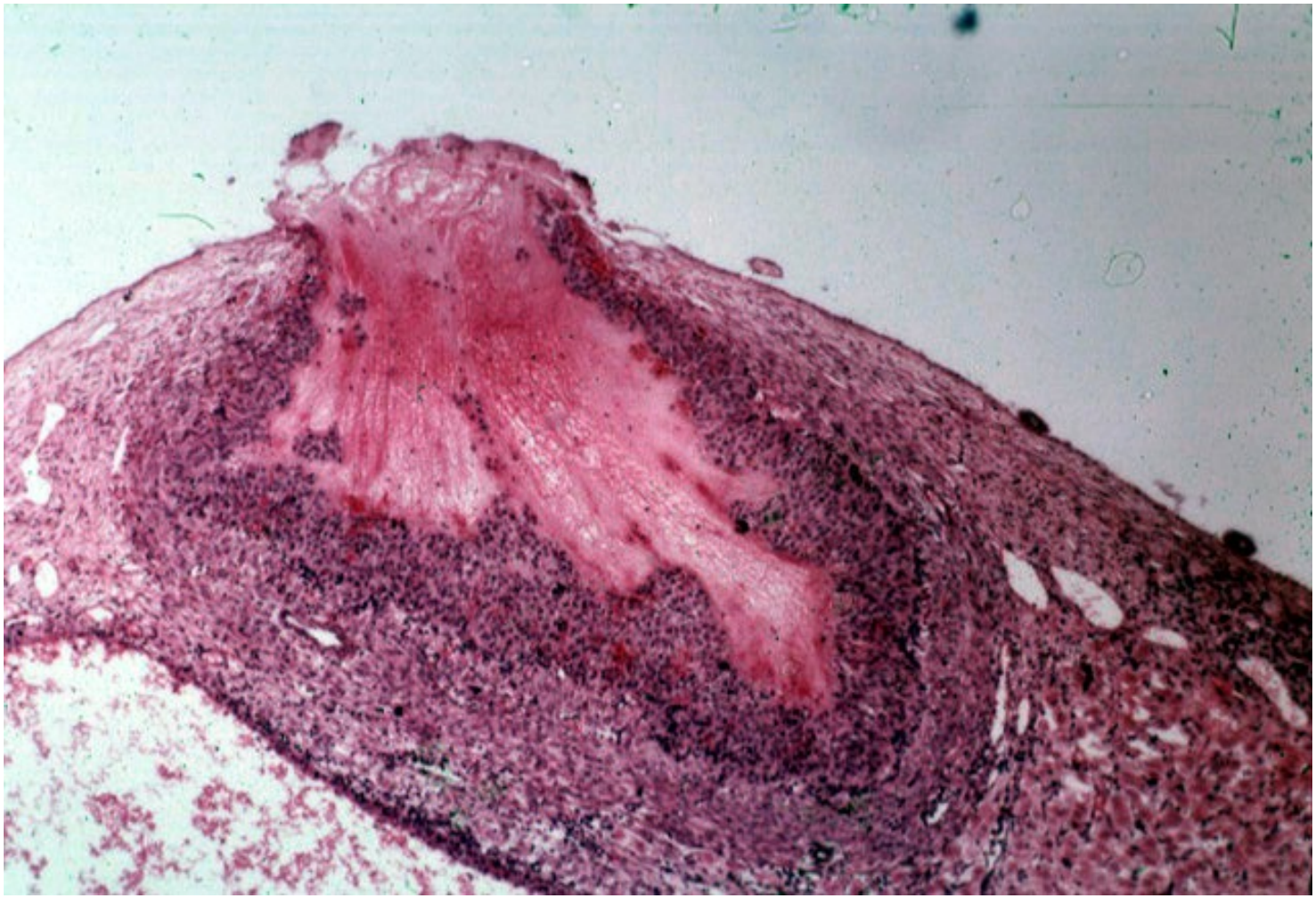


Uterine Cycle




Perimetrium
Endometrium
Myometrium
Cervix
UTERINE CAVITY
Uterine cavity
UTERINE CAVITY
Endometrial glands
UTERINE CAVITY
Endometrial glands
Basilar zone of endometrium
MYOMETRIUM
(a) Menses
Endometrial glands
Functional zone
ENDOMETRIUM
Basilar zone
MYOMETRIUM
(b) Proliferative phase
(c) Secretory phase

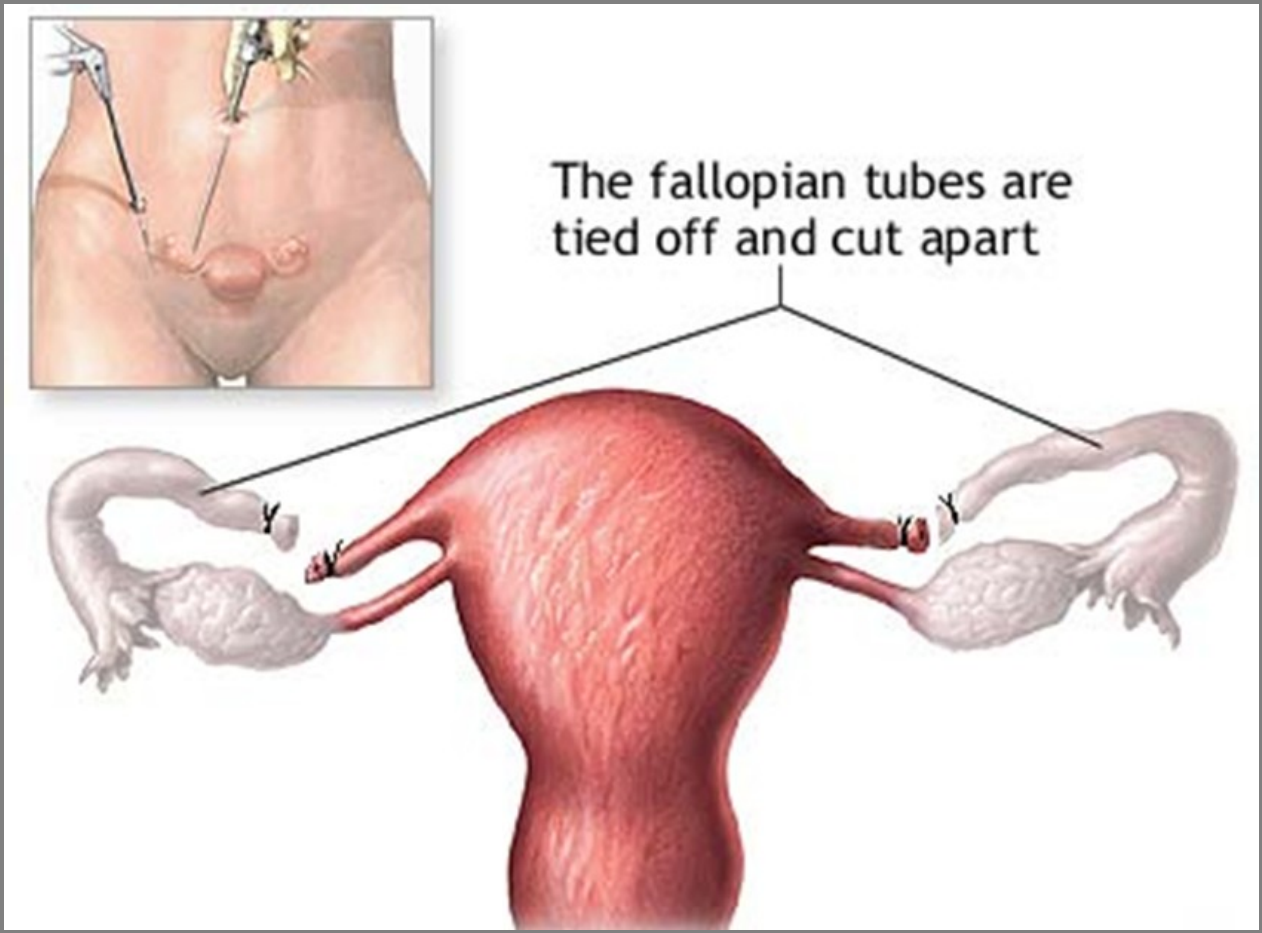
Ovulation of Mature Follicle



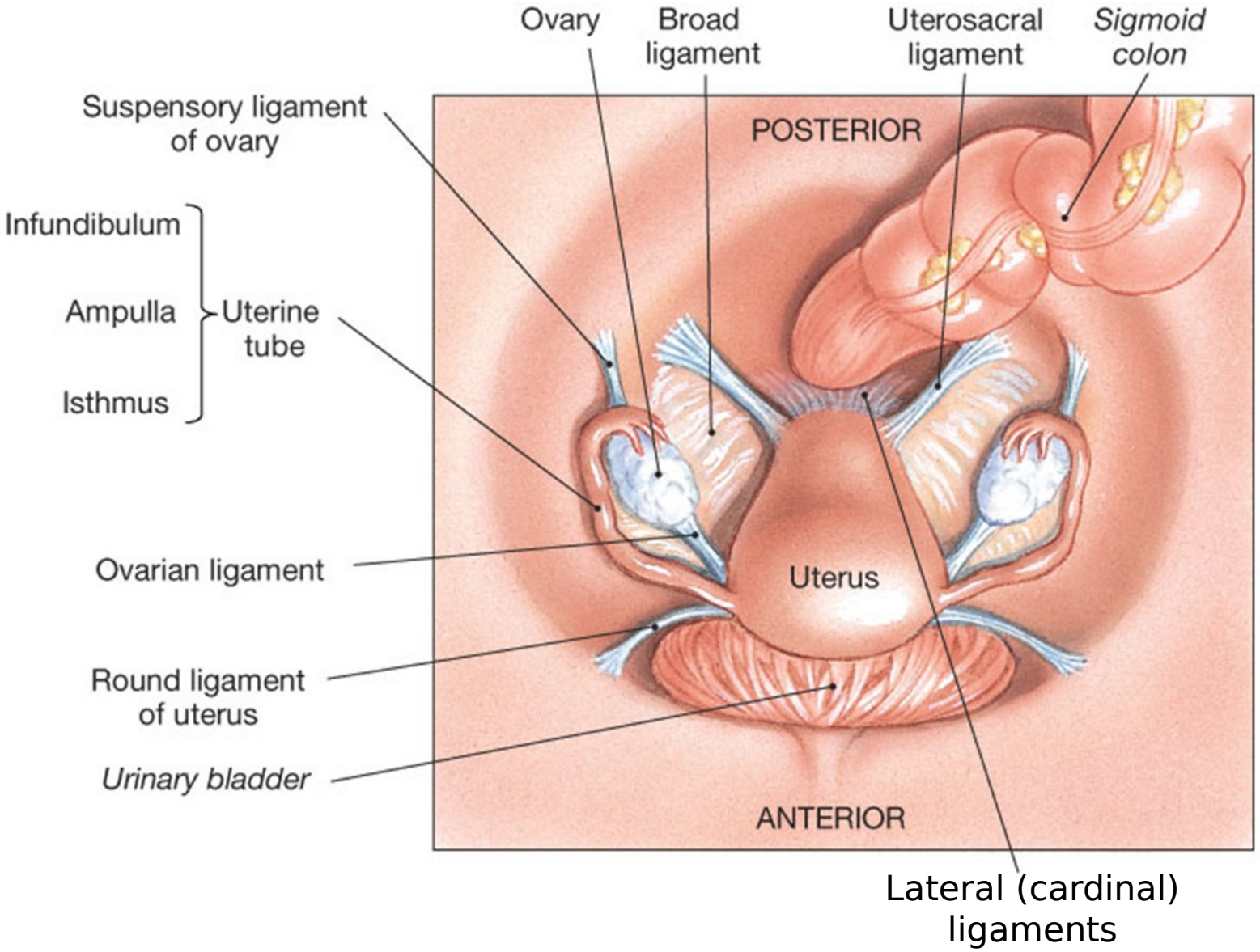
The Vagina

- Elastic muscular tube from uterus to external genitalia (has rugae).
- Passageway.
- Forms lower portion of birth canal.
- Lined by stratified squamous epithelium.

Tubal Ligation



Superior View of Female Reproductive System Ligaments



The External Genitalia

- Vulva (pudendum)

  Labia majora – outer (larger)

  Labia minora – inner (smaller)

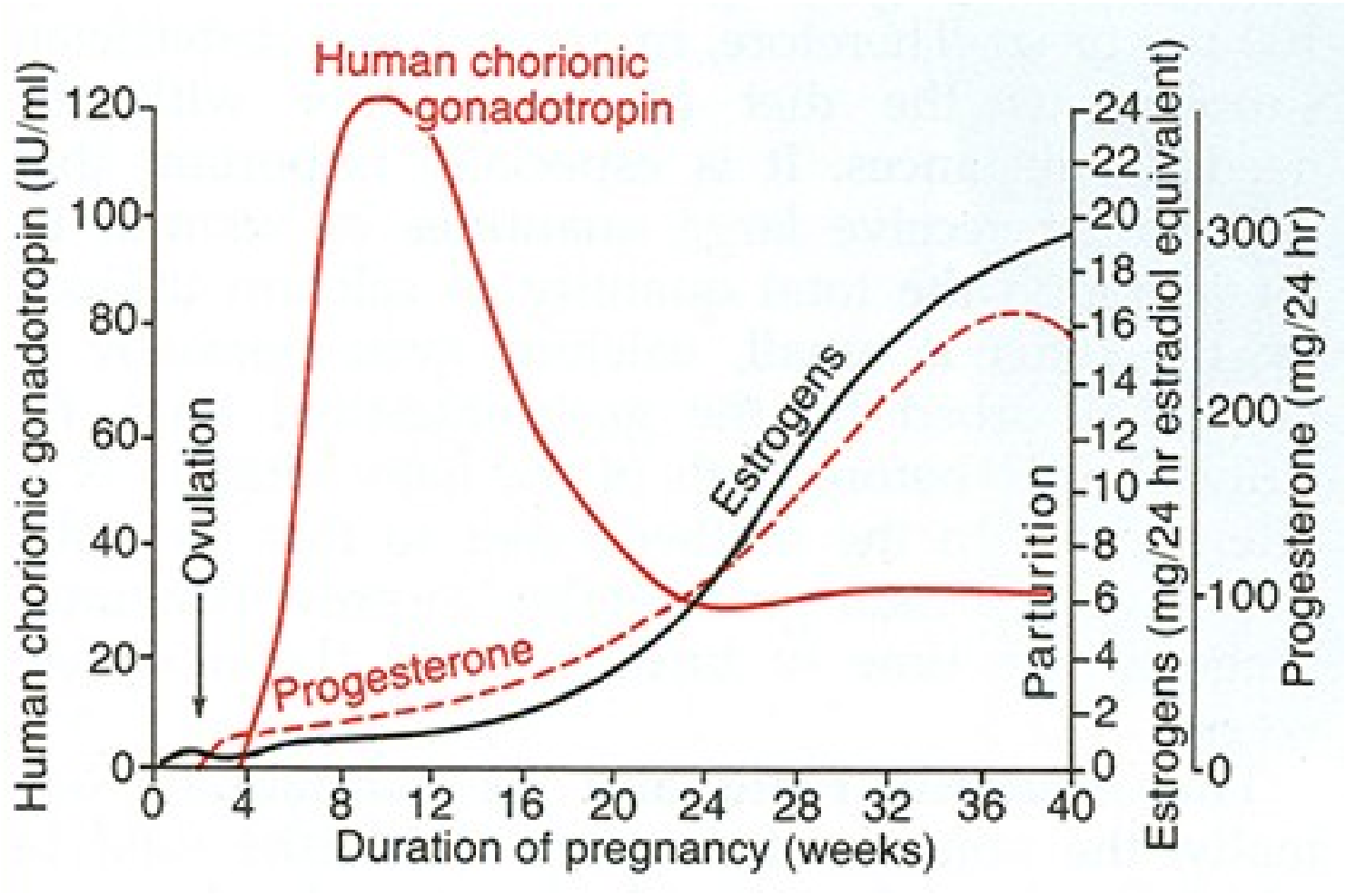
  Clitoris – erectile tissue (spongiosum)
  - Prepuce (hood, foreskin of clitoris)

  Vestibule (created by labia minora)

  Greater vestibular (Bartholin's) gland.

  Mons pubis

Implantation of Fertilized Egg Cell into Endometrium Triggers Signal to Ovaries



2º Sexual Characteristic

Differences in anatomy and physiology between males and females

= **sexual dimorphism**. Determined by genotype (XX and XY) and by phenotype (mostly directed by testosterone levels)

Characteristic	Males	Females
Bone mass/density	More massive and dense, thicker, more prominent.	Less massive and dense, less prominent features.
- Pubic Angle - Q Angle - Finger digit ratio	- Smaller: acute, less than 90º - Smaller: Q = ~**12º** - 4th longer than 2nd	- Larger, obtuse, greater than 90º - larger: Q = ~**18º** - 4th same/shorter to 2nd
Muscle mass	More muscle mass, higher % average of **40%** body Wt.	Less muscle mass, lower % average of **32%** body Wt.
Hair growth pattern	More hairy, facial hair, male pattern baldness.	Less hairy, no facial hair.
Distribution of body fat	Less body fat, **14%** body Wt.	More body fat, **24%** body Wt.